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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/606,558	06/29/2000	Hoon Chang	678-510(P9426)	6885

7590 10/24/2003

Paul J Farrell
Dilworth & Barrese
333 Earle Ovington Blvd
Uniondale, NY 11553

EXAMINER	
NG, CHRISTINE Y	
ART UNIT	**PAPER NUMBER**
2663	

DATE MAILED: 10/24/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/606,558	CHANG ET AL.	
	Examiner	Art Unit	
	Christine Ng	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 June 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *5* is/are allowed.

6)☒ Claim(s) *1-4 and 6-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation "the next RLP frame" in line 13 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "the failing RLP frames" in line 14 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "the first RLP frame" in lines 14 and 16 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 2-4, 6, 7 and 13 are rejected under 35 U.S.C. 102(e) as being unpatentable over U.S. Patent No. 6,408,003 to Rezaiifar et al.

Referring to claim 2, Rezaiifar et al disclose an apparatus in Figure 2 for requesting transmission of a failing RLP frame in a communications system that transmits a plurality of RLP frames from I/O (Element 56), each frame (Element 70) having a frame sequence field (Element 72) for a frame sequence number, a data field (Element 76) for data, and a retransmission field (Element 74) for retransmission. Refer to Column 6, lines 57-60. In Figure 7, the apparatus comprises a list (NAK list) for storing the frame sequence number (L_SEQ) of the failing RLP frame (Element 234) when receiving an RLP frame (Element 236) subsequent to the failing RLP frame (Element 234). Refer to Column 9, lines 66-67 to Column 10, lines 1-40. In Figure 2, the apparatus also comprises a controller (Element 91) for generating a retransmission request frame, a NAK message (Element 83), containing the frame sequence number (Element 83, L_SEQ) of the failing RLP frame and an identifier (Element 83, SEQ) different from the frame sequence number (Element 83, L_SEQ), wherein the retransmitted RLP frame stores the identifier (Element 83, SEQ) in the frame sequence field (Element 72). Refer to Column 7, lines 3-7, 17-34 and 44-48.

Referring to claim 3, Rezaiifar et al disclose in Figure 2 that the apparatus further comprises a register (Element 55) for storing the identifier (V(S)) and the frame sequence number (L_V(S)). Refer to Column 6, lines 66-67 to Column 7, lines 1-7.

Referring to claim 4, Rezaiifar et al disclose a method in Figure 2 for requesting transmission of a failing RLP frame in a communications system that transmits a plurality of RLP frames from I/O (Element 56), each frame (Element 70) having a frame sequence field (Element 72) for a frame sequence number, a data field (Element 76) for

data, and a retransmission field (Element 74) for retransmission. Refer to Column 6, lines 57-60. The method comprises the steps of receiving a retransmission request frame, a NAK message (Element 83), containing a frame sequence number (Element 83, L_SEQ) of the failing RLP frame, and an identifier (Element 83, SEQ) different from the frame sequence number (Element 83, L_SEQ). The method also comprises transmitting a retransmitted RLP frame (Element 70) with the identifier (Element 83, SEQ) stored in the frame sequence field (Element 72). Refer to Column 7, lines 3-7, 17-34 and 44-48.

Referring to claim 6, Rezaiifar et al disclose an apparatus in Figure 2 for requesting transmission of a failing RLP frame in a communications system that transmits a plurality of RLP frames from I/O (Element 56), each frame (Element 70) having a frame sequence field (Element 72) for a frame sequence number, a data field (Element 76) for data, and a retransmission field (Element 74) for retransmission. Refer to Column 6, lines 57-60. The apparatus comprises a forward re-sequencing buffer (Element 92) for storing the data of the transmitted RLP frames and the respective frame sequence numbers (L_SEQ within NAK list) of the transmitted RLP frames for retransmission. Refer to Column 10, lines 37-40 and Figure 7. The apparatus also includes a controller (Element 91) for generating a retransmitted RLP frame (Figure 7, Element 242) with an identifier (Element 72, SEQ) assigned to the frame sequence field (Element 72), and retransmission indicated in the retransmission field (Element 74) by detecting the RLP frame identified by the frame sequence number (Element 83, L_SEQ) of the failing RLP frame in response to a retransmission request frame (Element 83)

containing the frame sequence number (Element 83, L_SEQ) of the failing RLP frame and the identifier (Element 83, SEQ). Refer to Column 9, lines 66-67 to Column 10, lines 1-40.

Referring to claim 7, Rezaiifar et al disclose in Figure 7 that the apparatus further comprises a transmission request queue (NAK list) for storing the frame sequence number (L_SEQ) of the failing RLP frame (Element 234) and the identifier (SEQ) contained in the retransmission request frame (Figure 2, Element 83).

Referring to claim 13, Rezaiifar et al disclose in Figure 2 a method for requesting retransmission of a failing RLP frame in a communication system for transmitting a plurality of RLP frames from I/O (Element 56), each having a frame sequence field (Element 72) for a frame sequence number and a data field (Element 76) for data. Refer to Column 6, lines 57-60. As shown in Figure 8, the method comprises receiving the next RLP frame (Element 240D) subsequent to the failing RLP frame (Element 240C) and storing a sequence number of the first RLP frame (Element 240C) among the failing RLP frames (Elements 240C and 240K). The method also includes generating and transmitting a retransmission request frame, a NAK message (Figure 2, Element 83), containing the sequence number (Element 83, L_SEQ) of the first RLP frame (Element 240C). Refer to Column 10, lines 41-67 to Column 11, lines 1-40.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,408,003 to Rezaiifar et al. Rezaiifar et al disclose a method in Figure 2 for requesting transmission of a failing RLP frame in a communications system that transmits a plurality of RLP frames from I/O (Element 56), each frame (Element 70) having a frame sequence field (Element 72) for a frame sequence number, a data field (Element 76) for data, and a retransmission field (Element 74) for retransmission. Refer to Column 6, lines 57-60. In Figure 7, the method comprises receiving a next RLP (Element 236) subsequent to the failing RLP frame (Element 234). In Figure 2, the method also comprises transmitting a retransmission request frame, a NAK message (Element 83), containing the frame sequence number (Element 83, L_SEQ) of the failing RLP frame and an identifier (Element 83, SEQ) different from the frame sequence number (Element 83, L_SEQ), wherein the retransmitted RLP frame stores the identifier (Element 83, SEQ) in the frame sequence field (Element 72). Refer to Column 7, lines 3-7, 17-34 and 44-48. Rezaiifar et al does not disclose receiving a next RLP frame and storing the frame sequence number of the failing RLP frame in the frame sequence field of the next RLP frame. However, it would be obvious to one of ordinary skill at the time the invention was made to include storing the frame sequence number of the failing RLP frame in the frame sequence field of the next RLP frame because the frame sequence field is for storing frame sequence numbers.

7. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,408,003 to Rezaiifar et al in view of U.S. Patent No. 6,507,582 to Abrol.

Referring to claim 8, Rezaiifar et al disclose an apparatus in Figure 7 for receiving RLP data in a mobile communications systems. The apparatus comprises a transmitter (Element TX). The apparatus also comprises a receiver (Element RX) for requesting the transmitter (Element TX) to retransmit a failing RLP frame (Element 234) detected by the frame sequence number (L_SEQ) using an identifier (SEQ) assigned to the failing RLP frame (Element 234) instead of the frame sequence number (L_SEQ). The identifier (SEQ) is used to transmit the frame and the frame sequence number (L_SEQ) is used internally by the transmitter and receiver. Refer to Column 3, lines 22-26 and Column 10, lines 14-28. Rezaiifar et al does not disclose that the transmitter respectively assigns frame sequence numbers to a plurality of transmitted RLP frames. Abrol teaches in Figure 6 that the transmitter assigns sequence numbers from a subset of a predetermined sequence number space to a set of information bytes. Refer to Column 12, lines 64-67. Therefore, it would have been obvious to one of ordinary skill at the time the invention was made to include that the transmitter respectively assigns frame sequence numbers to a plurality of transmitted RLP frames in order to allocate sequence numbers to information bytes.

Referring to claim 9, Rezaiifar et al discloses in Figure 7 that the apparatus further comprises a list (NAK list) for storing the frame sequence number (L_SEQ) of the failing RLP frame (Element 234) when receiving an RLP frame (Element 236)

subsequent to the failing RLP frame (Element 234). Refer to Column 9, lines 66-67 to Column 10, lines 1-40. In Figure 2, the apparatus also comprises a controller (Element 91) for generating a retransmission request frame, a NAK message (Element 83), containing the frame sequence number (Element 83, L_SEQ) of the failing RLP frame and an identifier (Element 83, SEQ) different from the frame sequence number (Element 83, L_SEQ) to be assigned to a retransmitted RLP frame (Element 242). Refer to Column 7, lines 3-7, 17-34 and 44-48.

Referring to claim 10, Rezaiifar et al disclose in Figure 2 that the apparatus further comprises a register (Element 55) for storing the identifier (V(S)). Refer to Column 6, lines 66-67 to Column 7, lines 1-7.

Referring to claim 11, Rezaiifar et al discloses in Figure 7 that the apparatus further comprises a forward re-sequencing buffer (Element 92) for storing the data of the transmitted RLP frames and the respective frame sequence numbers (L_SEQ within NAK list) of the transmitted RLP frames for retransmission. Refer to Column 10, lines 37-40 and Figure 7. The apparatus also includes a controller (Element 91) for generating a retransmitted RLP frame (Figure 7, Element 242) with an identifier (Element 72, SEQ) assigned to the frame sequence field (Element 72), and retransmission indicated in the retransmission field (Element 74) by detecting the RLP frame identified by the frame sequence number (Element 83, L_SEQ) of the failing RLP frame in response to a retransmission request frame (Element 83) containing the frame sequence number (Element 83, L_SEQ) of the failing RLP frame and the identifier (Element 83, SEQ). Refer to Column 9, lines 66-67 to Column 10, lines 1-40.

Referring to claim 12, Rezaiifar et al disclose in Figure 7 that the apparatus further comprises a transmission request queue (NAK list) for storing the frame sequence number (L_SEQ) of the failing RLP frame (Element 234) and the identifier (SEQ) contained in the retransmission request frame (Figure 2, Element 83).

Allowable Subject Matter

8. Claim 5 is allowed.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

U.S. Patent No. 6,556,556 to Sen et al disclose storing a plurality of transmitted RLP frames and the respective sequence numbers in a transmit buffer (Column 4, lines 57-67).

U.S. Patent No. 6,169,732 to Hertherington et al disclose controller to compare the identification of a missing packet to the identification of the requested missing packet and retransmit it if they match (Column 3, lines 54-66 and Column 4, lines 4-10).

U.S Patent No. 6,189,122 to Cheng discloses a NAK list entry for each data frame which needs to be retransmitted (Column 4, lines 61-65).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (703) 305-8395. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nguyen Chau can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-8395.

C. Ng
October 8, 2003

CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600